

# VALLEY OF THE GIANTS

WALPOLE - NORNALUP NATIONAL PARK WESTERN AUSTRALIA

## FACT FILE

### Construction of the Tree Top Walk

A tree top walk was first proposed in this area in 1994 to protect the tingle forest and to allow the ever increasing number of visitors to gain an enhanced experience. A design team was selected from an Australia-wide competition to realise the Valley of the Giants project. Construction began in 1995.

The Tree Top Walk is a land management tool designed to minimise the impact of humans on the tingle trees. As such it was important that there was an emphasis on the protection of the environment during construction. For this reason, the walk was built using a minimum of machinery. Specifically, no helicopters or cranes were involved. Firstly, the pylons were erected by riggers using scaffolding.

The spans, which had been prefabricated in Fremantle, were moved onto the site using 4WD utilities and bolted together on the forest floor. They were then hoisted into their positions between each of the pylons using a hydraulic jack and mechanisms.

The construction consists of six 60-metre lightweight bridge spans on seven pylons, reaching a maximum height of 40 metres, over a small creek at the bottom of the valley.

The spans were especially designed to sway slightly as you walk in order to create the sensation of being in the canopy of the forest.

The see-through steel decking reinforces the sensation of being high up in the forest canopy.

The inspiration for the design of the pylon platforms and the trusses was the tassel flower (*Leucopogon verticillatus*) and sword grass (*Lepidosperma effusum*). These are both understorey plants of the tingle forest. The pylons were constructed from Austen steel, which oxidises and develops a rust colour that blends into the forest to give the impression of the walk being suspended in the air.

The Tree Top Walk opened on 6 August 1996. The entire Valley of the Giants project, including the Ancient Empire boardwalk, cost \$1.8 million.

By June 2007, the Tree Top Walk had attracted more than 2.1 million visitors.



# The tingle forest

Much of the plant life in this forest is unique to the south-west of Western Australia. Trees such as the tingles only occur in this small area and as such provide a window to the past.

Some of the plants have origins that can be traced back 65 million years to the super continent Gondwana when Australia was joined with what is now Africa, India, Antarctica and South America. Fifty million years ago, this land mass drifted apart to form separate continents in similar positions to those they occupy today (however, they are still slowly moving).

Since Gondwanan times Australia has experienced significant climatic change. However, here in the south-west of Western Australia, much less change has occurred. This region has an annual rainfall of more than 1200 millimetres, well-drained gravelly soil, low nutrient content, hilly terrain and minor seasonal change. It is this combination that has allowed species, such as relict spiders and snails from Gondwanan times, to survive in the tingle forest.

The canopy, ranging between 30 and 80 metres in height includes the red tingle (*Eucalyptus jacksonii*), yellow tingle (*Eucalyptus guilfoylei*), marri (*Corymbia calophylla*) and karri (*Eucalyptus diversicolor*). Jarrah does not grow in the vicinity of the Tree Top Walk.

The tingle forest holds an abundance of food sources for native animals including nuts, seeds, nectar, fungi, fruit and insects.

## Native fauna of the tingle forest

### Marsupials

Brush-tailed phascogales, quokkas, southern brown bandicoots, brush-tailed possums, grey bellied dunnarts, mardo, woylies, pygmy possums, chuditch, ring-tailed possums and western grey kangaroos occur in the forest.



### Other animals

Southern forest bat, motorbike frog, slender tree frog, bush rat and water rat can also be found.





## Tree Top Walk and Ancient Empire

Entire length of walk	600m
Length and width of wooden jetty	74m x 3m
Width of walkway of steel trusses	0.9m
Height of walkway from forest floor	9m – 40m
Weight of a steel truss	10 tonne
Diameter of platforms	3m
Number of pylons	7
Diameter of pylons	0.6m
Strength of guy wire	85 tonne
Foundation type	Steel grillage

### TIMBERS USED IN THE VALLEY OF THE GIANTS

Decking and stud work and Ancient Empire boardwalk	Jarrah
Light coloured cladding	Hoop pine
Dark coloured cladding	Karri
Shop counters	Red tingle and jarrah

Architects	Donaldson and Warn
Structural engineers	Ove Arup
Environmental artist	David Jones
Fabrication and erection	Future Engineering and Communication
Graphic design	Stumpfel Shaw
Signage	Compaq Marketing
Ancient Empire landscape architect and interpretive designer	Rowena Howard
Site managed by	Department of Environment and Conservation

### Birds

Seen at the Tree Top Walk at various times of the year are white tailed black cockatoos, western rosellas (both nest every year in hollows at the Tree Top Walk), red winged fairy-wrens, black-faced cuckoo-shrikes, golden whistlers, splendid fairy wrens, white breasted robins, scarlet robins, spotted pardalotes, white browed scrub wrens, ring-neck parrots, red-eared fire tail finches, purple-crowned lorikeets, crested shrike-tits and owl nightjar.



# Red tingle

(*Eucalyptus jacksonii*)

The red tingle can be identified by its rough fibrous bark of a grey-red colour and can have a base circumference of up to 20 metres, which makes it the largest buttressing eucalypt. This tree has an extremely restricted range and can only be found in an area of approximately 6000 hectares, between the Deep River in the west, the Bow River to the east and within 10 kilometres of the coast.

The flowering cycle starts after 30 years of age when the tree produces small white flowers once every four years in the late summer and early autumn. This can continue for the life of the red tingle, which is approximately 400 years. Trees can reach a height of 75 metres.



The distinctive feature of the red tingle is its large, hollowed out base. The hollows have been caused over a long period of time by fire, fungal and insect attack.

Unlike other eucalypts, tingles do not have a taproot. They have a shallow root system that spreads as they grow older, causing the trees to buttress. This gives them more stability and also allows them to absorb more moisture and nutrients.

Its shallow root system and reliance on surface humus for nutrients makes the tingle vulnerable to compaction by people walking close to the base. The Tree Top Walk has been built to allow us to enjoy the forest without causing an adverse impact on the trees, and a unique opportunity to view the forest from canopy level.



VALLEY OF THE GIANTS  
TREE TOP WALK

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